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SENV, SOCI, AMED, ECON, ETRD
SUBJECT: JAPAN'S THIRD S&T BASIC PLAN

REF: 05 TOKYO 4326

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SUMMARY

¶1. On March 22, Japan's Council for Science and Technology Policy (CSTP), which is chaired by Prime Minister Koizumi, approved Japan's Third Five-year Basic Plan for Science and Technology (S&T) Policy, covering JFY-2006 to JFY-2010. The Third Basic Plan identifies 62 projects that are to receive funding and resources over the five-year period. The CSTP also designated five of the 62 projects as technologies critical to maintaining Japan's S&T competitiveness, including a next generation super computer, an advanced ocean earth observation system, a fast breeder reactor, a new space transport system and an x-ray free electron laser. The Ministry of Finance has allocated Yen 25 trillion (USD217 billion) for the GOJ's R&D investment budget for the five years covered by the plan. The cabinet approved the plan on March 28. The third Basic Plan can be viewed at:
http://www8.cao.jp/cstp/english/basic/3rd-BasicPolicies_2006-2010.htm.

Policy Goals and Strategic Priorities

¶2. The Third Basic S&T Plan promotes projects that will "make a positive contribution to society and economic competitiveness". The GOJ identified six key goals that each designated technology should achieve:

-- provide a "quantum leap in knowledge"
-- focus on discovery and creation
-- provide breakthroughs in advanced S&T
-- promote sustainable development
-- reclaim Japan's S&T competitiveness
-- improve public health
-- improve public safety

¶3. The Third Basic Plan continues the Second Basic Plan's high-priority areas, including life sciences, information technology, environmental sciences, and nano-technology and materials. Four second tier areas include energy, manufacturing technologies, infrastructure, and frontier

sciences, such as space and ocean exploration. Under these eight areas, 62 individual research projects were designated as strategic priorities and given specific goals to achieve.

Critical Technologies

¶4. In December 2004, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) proposed ten critical technologies aimed at strengthening Japan's international competitiveness and revitalizing its S&T capabilities (See reftel). The CSTP in December 2005 selected the following five critical projects:

1) Next Generation Supercomputer

This project will develop and operate a next generation supercomputer with a ten-petaflop peak computing speed by JFY2010. One-petaflop is 1000 trillion calculations per second. Japan's Earth Simulator computer currently holds the nation's speed record at 35.6 teraflops, making it the fourth fastest in the world.

2) Ocean and Earth Observation

2-1) Next Generation Deep Sea Exploration Technology

This project will develop technology to drill 7,000m below the seafloor by JFY 2010 and will also develop technologies necessary for an autonomous underwater probe with a 3,000km cruising range and an unmanned deep-sea explorer capable of working at depths near 11,000m.

2-2) Earth Observation Technology

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This project will create an observation and monitoring system by JFY2010 to analyze global environmental changes using data on atmospheric concentrations of greenhouse gases collected by the Global Gases Observing Satellite (GOSAT).

2-3) Disaster Monitoring Satellite

This project will examine the feasibility of using data from Japan's Advanced Land Observing Satellite (ALOS) and High Accuracy Positioning Experiment System, using the Quasi-Zenith Satellite System to observe and monitor natural disasters.

3) Fast Breeder Reactor (FBR)

With a goal of introducing commercially viable FBRs by JFY2050, the GOJ will begin studying technologies and initial plant designs for a demonstrator FBR by 2010. The project includes verification studies on cost effective technologies to produce and burn MOX fuel.

4) Space Transportation System

This project aims to develop a reliable space transportation system to replace the H2A space launch vehicle (SLV). The project will also develop H2B SLVs capable of carrying the H2 Transfer Vehicle (HTV) and an eight-ton satellite to geosynchronous orbit by JFY2008.

5) X-ray Free Electron Laser

This project will develop an x-ray free electron laser for measuring and analyzing atomic-level microstructures and high-speed changes in chemical reactions by JFY2010. The development of new measurement and analysis technologies will facilitate advances in nano-scale manufacturing.

Five-year R&D Investment Target

¶5. The Ministry of Finance (MOF) has established the GOJ's R&D investment target at Yen 25 trillion (USD 217 billion) for the five-year period covered by the Third Basic Plan. Investment targets for the First and Second Basic Plans were Yen 17 trillion (USD 148 billion) and Yen 24 trillion (USD 209 billion), respectively. MOF initially was opposed to setting an investment target for the current plan due to GOJ financial constraints. However, at the November CSTP meeting, Prime Minister Koizumi reportedly instructed Finance Minister Tanigaki and S&T Policy Minister Matsuda to establish targets. Koizumi argued that S&T was one of the few areas whose budget should be increased. The Yen 25 trillion is equivalent to one percent of Japan's GDP.

DONOVAN